



ORIGINAL ARTICLE

Probiotic Viability, Physicochemical Characterization and Sensory Properties of Cornelian Cherry (*Cornus mas* L.) Juice Supplemented with *Lactobacillus acidophilus* and *Lactobacillus delbrueckii*

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KEYWORDS

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ABSTRACT: A large variety of fruits and vegetables and a large number of *Lactobacillus* strains provide a great opportunity for the development and industrialization of non-dairy beverages. In this study, *Lactobacillus acidophilus* and *Lactobacillus delbrueckii* were used for cornelian cherry probiotic juice. Physicochemical factors such as the survival of probiotic bacteria, acidity and the total amount of reducing carbohydrates in probiotic juice were studied. After four weeks, the survival of *Lactobacillus delbrueckii* was significantly higher than other treatments ($P < 0.05$). After four weeks, no *Lactobacillus acidophilus* bacteria had survived. In terms of sensory evaluation, there was a significant difference between two treatments of *Lactobacillus acidophilus* and *Lactobacillus delbrueckii*, while the treatment with *Lactobacillus acidophilus* probiotic bacteria was more acceptable than *Lactobacillus delbrueckii* ($P < 0.05$). Due to the sensory characteristics, the viability of bacteria, and other physicochemical properties, it can be concluded that probiotic juice can be useful for human health if the probiotic bacteria can survive.

INTRODUCTION

A large variety of fruits and vegetables and a large number of *Lactobacillus* strains provide a great opportunity for the development and industrialization of non-dairy fermented beverages. Considering the biological and nutritional potential of the extracts of vegetables and fruits and since most of juices and vegetables have no allergenic compounds, it seems that the use of their extracts is very useful and these products are consumed by a large number of people [1]. Currently, some non-dairy probiotic beverages are commercially available and their consumption is increasing in the world [2, 3].

Functional food refers to a kind of food which has a health-consciousness for the consumer in addition to a nutritional characteristic. In other words, it has also a medicinal value beyond nutritional value [4]. Probiotic bacteria are the living microorganisms which can improve intestinal microbial balance for increasing their usefulness and, inhibiting the activity of non-useful microorganisms and pathogen by their activity. Probiotic is also used as a food trait containing these bacteria. The use of probiotic supplements provides useful colonies which can help the human body, while providing the natural bacterial of the intestine to repair and rebuild

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